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THE PLANT DISEASE REPORTER

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The Office of Mycology and Disease Survey

Volume X Number 9

October 15, 1926

BUREAU OF PLANT INDUSTRY

UNITED STATES DEPARTMENT OF AGRICULTURE

THE PLANT DISEASE REPORTER

Issued by

THE OFFICE OF MYCOLOGY AND DISEASE SURVEY

Volume X October 15, 1926 Number 9

ANNUAL REPORT ON DISEASES OF CEREALS BEING REQUESTED

A request for the annual report on cereal diseases is now being mailed out to the chief collaborator of each state. This report is due in the Washington office November 15, and it is hoped that all collaborators will make special efforts to get their reports in on time. Although the request is made directly to the chief collaborators only, it is expected that all other collaborators and also readers of this bulletin and pathologists in general will cooperate with those who have the preparation of the report in charge, and will submit the data they have on cereal diseases for 1926 to them, or if they prefer, directly to the Washington office. This year we hope to have the best annual summary on cereal diseases that has ever been issued. For your information we are listing below the names of collaborators to whom the request for the cereal disease report is being made.

Alabama	L. E. Miles	Agr. Exp. Sta., Auburn
Arizona	R. B. Streets	Univ. of Ariz., Tucson
Arkansas	V. H. Young	Agr. Exp. Sta., Fayetteville
California	W. W. Mackie	Agr. Exp. Sta., Berkeley
Colorado	L. W. Durrell	Agr. Exp. Sta., Ft. Collins
Connecticut	G. P. Clinton	Agr. Exp. Sta., New Haven
Delaware	J. F. Adams	Agr. Exp. Sta., Newark
Florida	G. F. Weber	Agr. Exp. Sta., Gainesville
Georgia	O. C. Boyd	Sta. Bd. Entomol., Thomasville
Idaho	C. W. Hungerford	Agr. Exp. Sta., Moscow
Illinois	L. R. Tehon	Sta. Nat. Hist. Survey, Urbana
Indiana	M. W. Gardner	Agr. Exp. Sta., La Fayette

Iowa	I. E. Melhus	Agr. Exp. Sta., Ames
Kansas	L. E. Melchers	Agr. Exp. Sta., Manhattan
Kentucky	W. L. Valleau	Agr. Exp. Sta., Lexington
Louisiana	C. W. Edgerton	Agr. Exp. Sta., Baton Rouge
Maine	Donald Folsom	Agr. Exp. Sta., Orono
Maryland	C. E. Temple	Agr. Exp. Sta., College Park
Massachusetts	A. V. Osmun	Agr. Exp. Sta., Amherst
Michigan	Ray Nelson	Mich. Agr. Col., E. Lansing
Minnesota	E. C. Stakman	Univ. Farm, St. Paul
Mississippi	D. C. Neal	Agr. Exp. Sta., A. & M. College
Missouri	W. A. Archer	Agr. Exp. Sta., Columbia
Montana	H. E. Morris	Agr. Exp. Sta., Bozeman
Nebraska	R. W. Goss	Col. Agr., Lincoln
Nevada	P. A. Lehenbauer	Univ. of Nev., Reno
New Hampshire	O. R. Butler	Agr. Exp. Sta., Durham
New Jersey	W. H. Martin	Agr. Exp. Sta., New Brunswick
New Mexico	R. F. Crawford	N. Mex. Agr. Col., State Col.
New York	M. F. Barrus	Cornell Univ., Ithaca
North Carolina	G. W. Fant	Agr. Exp. Sta., Raleigh
North Dakota	W. E. Brentzel	Agr. Exp. Sta., Agr. College
Ohio	H. C. Young	Agr. Exp. Sta., Wooster
Oklahoma	F. M. Rolfs	Agr. Exp. Sta., Stillwater
Oregon	H. P. Barss	Agr. Exp. Sta., Corvallis
Pennsylvania	R. S. Kirby	Agr. Exp. Sta., State College
Rhode Island	H. W. Browning	Agr. Exp. Sta., Kingston
South Carolina	C. A. Ludwig	Agr. Exp. Sta., Clemson College
South Dakota	A. T. Evans	Agr. Exp. Sta., Brookings
Tennessee	C. D. Sherbakoff	Agr. Exp. Sta., Knoxville
Texas	J. J. Taubenhaus	Agr. Exp. Sta., College Station
Utah	B. L. Richards	Agr. Exp. Sta., Logan
Vermont	B. F. Lutman	Agr. Exp. Sta., Burlington
Virginia	F. D. Fromme	Agr. Exp. Sta., Blacksburg
Washington	F. D. Heald	Agr. Exp. Sta., Pullman
West Virginia	N. J. Giddings	Agr. Exp. Sta., Morgantown
Wisconsin	R. E. Vaughan	Agr. Exp. Sta., Madison

A new report card with map is being used for the first time this year. This card has been worked out with the assistance of collaborators who have helped us in preparing the annual summaries and employs a system of checking which will not only make the filling out of the card easier, but will tend to standardize the terms used and to facilitate the tabulation and comparison of data in the Washington Office. For the information of readers a copy of this card is given on the adjoining page. The card itself is 4 x 6 inches in size and on the reverse side is a state map.

In Plant Disease Reporter Supplement 47 "Diseases of Fruit and Nut

Crop..... Disease..... Space to be used for printing (State)

Cause..... Year.....

Crop Importance (Check) { major..... minor..... occasional plantings..... not grown commercially...	Prevalence compared with last year (Check) { much more... more..... same..... less..... much less...	Prevalence compared with average year (Check) { much more... more..... same..... less..... much less..	Importance of this disease in an average year (Check) { very..... moderate... slight.....

Loss for State (Use figures above 0.1%; mark trace below 0.1%) { % reduction in yield..... % loss in grade, storage, transit, etc... Total loss..... Maximun % infection in any one field.....	Geographic distribution in State this year General( ) Local( ) Scattered( ) (Check) Explain	Earliest recorded appearance of disease this year Date..... (month) (day) Place..... (town) (county)	Period of maximum injury Season (Check) { Early... Mid..... Late.... Stage of host

Weather relations this year

Moisture (Check) { Favorable..... Unfavorable... to disease } Explain

Temperature (Check) { Favorable..... Unfavorable... to disease } Explain

Varietal susceptibility this year

Varieties immune :_____

" very resistant :_____

" resistant :_____

" susceptible :_____

" very susceptible:_____

General remarks: basis of loss estimate, new work, control measures, unusual observations, etc.

Note: Do not attempt to answer all these questions unless definite data are available.

Reported by.....

Crops in the United States in 1925" F. J. Schneiderhan gives some suggestions for improving the annual state disease survey reports. Since these suggestions are very good we would like to repeat them in this connection.

> "(1) More definite records in all states of dates of the first and maximum appearance of diseases, dates of spray applications, dates of maximum injury to crops, and more careful judgment in making estimates of losses by diseases and other injuries to crops.
>
> "(2) A careful examination of annual, field, laboratory, and other Departmental reports for the purpose of selecting and submitting to the Plant Disease Survey the most important results obtained during the current year's work.
>
> "(3) Every collaborator should send in the disease card of every crop, regardless of whether the disease occurs or whether the crop is grown in that particular state or not. Notation on the card whether the crop or the disease occurs would be a great help in preparing the summaries at headquarters.
>
> "(4) Sending in of survey cards before the close of the year. This will greatly expedite the difficult task of compiling the data for the annual summaries."

DOCKAGE OF WHEAT ON ACCOUNT OF BUNT IN ILLINOIS

In order to obtain information to supplement their field notes on the prevalence of bunt in Illinois, L. R. Tehon of the Illinois State Natural History Survey, sent out 1500 circular letters to members of the Illinois Grain Dealers Association asking for the total number of bushels of wheat purchased, the number of bushels of smutty wheat and the dockage applied to infested wheat. Replies were expected only when infested wheat had been purchased. Doctor Tehon summarizes the results as follows:

> "Among the 207 replies there were 150 specific answers to the questions asked. A summary of them shows an actual money loss, either to growers or dealers, of $22,625.28, this being the total dockage on 303,256 bushels of smutted wheat, an average of 7.4 cents per bushel. There were, however, 68,453 bushels of lightly smutted wheat which had no dockage, thus bringing the total amount of infected grain to 371,709 bushels. Since the marketing of 4,796,699 bushels was reported, smutty wheat constituted 7.7 per cent and that on which dockage was applied 6.3 per cent."

A BAD CASE OF CORN RUST (PUCCINIA SORGHI) IN CONNECTICUT

"Only two reports so far but one of them, on sweet corn, the worst I have ever seen, doing considerable damage. Very abundant on the leaves, occasionally on leaf sheaths and stalks of staminate inflorescence, rare on husks of ears and absent on glumes of staminate flowers. Abundant at one end of field and running out at other end. Have never collected aecial stage on Oxalis here." (Clinton, Oct. 1)

CORN EAR ROT DAMAGING IN PENNSYLVANIA

"On account of extremely wet weather while the ears were developing, ear rot has been the most destructive I have ever observed. In many fields the percentage of ears showing symptoms and signs of rot are running between 80 and 90 per cent." (Kirby, Oct. 11)

KANSAS REPORTS ON SORGHUM DISEASES

Under date of October 1, L. E. Melchers of the Kansas Experiment Station reported as follows on diseases of sorghum:

Kernel smut (Sphacelotheca sorghi). About as abundant as in 1925, which was worse than general. The loss for the state will be about 10 per cent. Many fields show 50, 75, and 80 per cent infected heads.

Copper carbonate has been recommended for two seasons with gratifying results. In 1926 between three and four hundred thousand acres have been planted to treated seed.

Head smut (Sorosporium reilianum). Present in approximately the same amounts in the state as last year. Never becomes epidemic. Finney County reported considerable in some plantings. Red Amber sorgo has been noted to be more susceptible in experimental plantings and on farms than other sorghums.

Leafspot (Bacterium andropogoni). Less than in 1925. Did not cause any damage. Red and brown leaf-spots and discolorations on the leaves and stalks of sorghum plants are always common. The causesof these have never been definitely determined. The injury to such sorghums as Sudan grass is frequently serious.

MORE REPORTS ON COWPEA SCAB

Virginia: Two additional collections of scab (Cladosporium vignae) have been received, one from Clintwood, Dickenson County, with slight infection in the Whippoorwill variety, September 6; the other from Skipwith, Mecklenburg County. Very severe infection on Blackeye, September 21. The varieties Iron, Clay, and Hull in the same field as Blackeye reported to be uninfected. (Fromme, Oct. 1)

DISEASES OF SOYBEAN IN KANSAS

Writing on September 15, J. L. Weimer of the Bureau of Plant Industry, located at Manhattan, Kansas, reports as follows on soybean diseases as he has observed them in Kansas this year.

Pustule (*Bacterium phaseoli sojense*). Pustule occurs wherever soybeans are grown in Kansas. It is not as prevalent as blight and was not observed quite so early in the season. Both diseases appeared in the forepart of July.

Bacterial blight (*Bacterium glycineum*). Prevalent everywhere soybeans have been seen growing in Kansas. Probably causes a loss of 1 to 5 per cent of the lower leaves.

Mosaic. Scattering plants seen on the agronomy farm at Manhattan about the 10th of July. The disease was somewhat more prevalent later in the season. Probably less than one per cent loss.

BUCKWHEAT YELLOWS

New Jersey: Observed on College Farm, New Brunswick, August 1, on a fraction of one per cent. By September 1 about one per cent diseased. Effects seen in inflorescence. Indefinite proliferation of flower buds and abundant production of small greenish flowers on long rather erect pedicels. (Dept. Plant Path., Sept. 6).

After examining specimens Dr. L. O. Kunkel reported he thought the disease to be aster yellows.

OIL SPRAY INJURY TO APPLES IN WASHINGTON

"There has come to the attention of the Plant Pathology Department several instances of injury from successive applications of a summer oil spray for codling moth control. The injury takes several forms, reduced vitality of tree and reduced size of fruit, spotting or russeting of the skin of the fruit, and premature dropping of fruit due to injury to the stem. Extensive commercial use of summer oil sprays has been stimulated by the necessity of limiting arsenic residues on the fruit." (Div. Plant Path., Sept. 15)

SOOTY BLOTCH OF APPLE

Maryland: Much more prevalent than usual. In most orchards where late spraying was omitted and in unsprayed orchards 75 to 100 per cent of the fruit is infected. (Dehle, Sept. 15)

ARKANSAS GRAPE DISEASES

H. R. Rosen of the Arkansas Experiment Station reports as follows on grape diseases, September 15:

> Blackrot (Guignardia bidwellii). Quite common and serious on Concord where spray was not applied thoroughly. One vineyard of about ten acres with an estimated loss of 20 per cent of fruit from this disease. Heavy vegetative growth in this field prevented the spray from reaching the fruit.
>
> Uneven ripening. Vineyards scattered over considerable area in Washington and Benton Counties show an unusual amount of green, underdeveloped fruit in clusters which have ripe berries along with small, green ones (Concord variety). In some instances this seems to be associated with a withering of peduncles but in many cases such withering has not been noted. The assumption is that the extreme dry weather alternating with much rainy weather has interfered with normal foliar activities such as carbohydrate manufacture.
>
> Ripe rot. Much shelling of grapes of the Concord variety together with a brownish discoloration of fruit stalks and a rotting of fruit has been noted this year. This has mostly been found in vineyards where ripening of fruit has been retarded. No fruiting bodies of Melanconium or Coniothyrium have been observed. On the other hand acervuli of both Gloeosporium and Pestalozzia type have been found both on fruit and on fruit stalks. What the relationship of these two fungi is to the disease is not yet clear. Symptoms here noted are markedly different from those described for grape anthracnose in various publications.

PEACH ROOT ROT

In Dunklin County, Missouri, W. A. Archer found a peach orchard where all trees were heavily attacked by the rootknot nematode (Heterodera radicicola) Roots were badly distorted and covered with galls and the trees were bearing very scantily. Two years ago another orchard was killed in the same manner. Practically all garden plants on this farm were affected with rootknot.

DISEASES OF CANNING BEANS IN NEW YORK

Under date of September 27 Leon K. Jones of the Geneva Experiment Station reports as follows on diseases of snap beans used for canning in New York State. Since New York leads all other states in the production of canning beans these notes are of especial importance.

Blight (Bacterium phaseoli). Very abundant on Green Refugee variety of canning beans in the state. Extreme damage in local sections causing joint rot. Ten to 15 per cent damage to crop in the state. Less important on wax beans. In general, less damage than last year.

Anthracnose (Colletotrichum lindemuthianum). Minor as a general thing on canning (snap) beans. A few local areas 15 per cent loss. Considerably less damage than previous year.

Mosaic. In general of minor importance, possibly 1 per cent loss of snap beans.

Root rot. Early cold season (June) delayed germination and growth, reducing vitality of roots. Also extreme injury resulted from attacks of the corn seed maggot in roots and stems in the cold early season. Average stand of plants resulting from these factors did not exceed 50 per cent in the state.

MACROPHOMA PHASEOLI IN MISSISSIPPI

From time to time in various Plant Disease Survey reports this fungus has been reported from South Carolina and from Georgia, causing what has appropriately been called "ashy stem blight." In a recent number of Science (64: xi. Sept. 17, 1926) it is mentioned that the disease also occurs in Mississippi. After making inquiries concerning this reported Mississippi occurrence the following statement from H. H. Wedgworth of the Mississippi Experiment Station, in a letter of September 29 to W. A. Whitney of the Bureau of Plant Industry, has been received. This is the first direct report of this disease from Mississippi. The fungus was identified by C. A. Ludwig on specimens sent to him by Wedgworth from Mississippi.

"Beans infected with a stem rot and having fruited bodies very similar to Macrophoma phaseoli have been collected from two fields in Oktibbeha County and from one field in George County. The disease was quite destructive, especially in one field, this year. This particular field in Oktibbeha County suffered a loss of about 60 or 65 per cent of the plants from the spring planting. Unfortunately, the grower planted this field to fall beans and the disease has been prevalent in this planting also to the extent of about 50 per cent.

VIRGINIA COTTON DISEASES

Anthracnose (Glomerella gossypii). Infection ranging from a trace to 10 per cent of pods reported from Nansemond, Princess Anne, Charlotte, Isle of Wight, Mecklenburg, and Dinwiddie Counties. (Fromme, Sept. 20)

Boll spot (Ascochyta gossypii). Specimens of this disease received from within the state but the exact locality undetermined. (Fromme, Sept. 21)

COTTON ROOT ROT IN TEXAS

Indications seem to be that the Texas root rot (Ozonium omnivorum) is unusually severe this year. J. J. Taubenhaus makes that statement and has been sending out questionnaires to county agents and others in an effort to learn additional facts concerning occurrence and losses. In the Wall Street Journal of September 28 the statement is made that out of about 19,000,000 acres of cotton planted in Texas this year, about 2,800,000 acres has been affected with the root rot fungus. What the source of this information is we do not know but there is no doubt but what the root rot is taking a tremendous toll of cotton not only in Texas but in some of the other Southwestern states.

LATE BLIGHT OF POTATO

The Survey has had indications that considerable late blight of potato (Phytophthora infestans) may be occurring in some of our northern and eastern potato states. For the benefit of those interested in potatoes we should know more about this and should get first hand information immediately, Therefore, any collaborator or reader of this Reporter who has any information concerning the occurrence or prevalence of late blight in his locality is asked to report it at once to the Survey. The two following reports have been received recently.

Connecticut: Recently have found late blight in several fields where

it has apparently just appeared. Foliage too far gone as a rule to cause much damage to it but it may start up on tubers if foliage is not killed by frost soon. Heard of one field in northern part of state where tubers had rotted. Late potatoes in many fields still moderately green. This is latest I have ever seen them so green in this state, as ordinarily they are all dead by the middle of September. (Clinton, Oct. 1)

Ohio: Late blight has appeared in several parts of the state during the last two weeks. In northeastern Ohio all June planted potatoes that were still green are killed by blight. It has been so wet that growers could not get in the field with a sprayer. (Tilford, Oct. 1)

OTHER POTATO DISEASES IN OHIO

On October 1, Paul E. Tilford of the Ohio Experiment Station at Wooster sent in the following notes on potato diseases. The report of the occurrence of yellow dwarf is the first record for Ohio.

Early blight (Alternaria solani). During the last month considerable early blight has shown up.

Hopperburn. Practically all May planted potatoes, unless sprayed, are dead from hopper injury.

Rhizoctonia (Rhizoctonia solani and Corticium vagum). In some fields considerable Rhizoctonia stem rot is in evidence.

Yellow dwarf. Yellow dwarf appeared on several plants in a source of seed test. The lots containing yellow dwarf were from New York State.

TOBACCO BLACKFIRE IN VIRGINIA

"Severe infection appeared the latter part of August in the Burley crop of Russell County. Not nearly so severe in Washington County and of minor importance in other sections of the state." (Fromme, Sept. 3)

TOMATO DISEASES IN NEW YORK

In 1925 New York grew 89,100 tons of tomatoes for canning. It is, therefore, interesting to have information concerning the diseases of that crop in New York canning sections. Leon K. Jones of the Geneva Experiment

Station reports as follows on this subject, September 27.

Septoria blight (Septoria lycopersici). In general of minor importance in the canning districts. On account of the dry summer it did not become established until August 1 or after. A few fields were heavily defoliated when rotation of other crops was not followed.

Macrosporium blight (Macrosporium spp.) Of minor importance in causing defoliation but appears to be causing considerable damage as a rot in cracked fruit in the canning districts.

Bacterial blight (Bacterium solanacearum). This disease caused about 10 per cent loss to crop in one canning district (Wilson) but was not present in other canning districts. It appears to have been introduced on the seed.